

## **A Strategic Alliance Model for Economic Organisation of Small-Scale Forestry in Australia**

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Small-scale plantation forestry is likely to have a number of discrete agents contributing endowments to the production function. In this paper it is argued that the traditional methods of economic organisation used in plantation forestry may not be appropriate for achieving the objectives of the venture partners so alternative methods may be required. A *strategic alliance* model for small-scale plantation ventures in north Queensland is developed, which has multi-nodal features and which incorporate vertical and horizontal alliances. The core alliance is vertical and involves seven potential primary factors of production necessary for a successful forestry venture (namely land, labour, capital, silviculture skills, marketing skills, harvesting and processing skills and government). The strategic alliance model also incorporates horizontal alliances because each partner may participate in a network with other like partners within their field, therefore representing economies of size or scale alliances. The proposed model recognises the importance of minimising transaction costs, building trust, promoting sound corporate governance and ensuring continuing information exchanges between partners are being the factors behind successful alliances.

**Keywords:** strategic alliance, networks, vertical integration, horizontal integration

### **INTRODUCTION**

Small-scale or farm forestry is an emerging sector of the Australian forest industry and has the potential to provide substantial economic benefits to both individual landholders and the wider community. Data from the National Farm Forestry Inventory (NFFI) indicate that there are about 70,000 ha of farm forestry plantations (about 5% of the total plantation estate) and that most of these are found in the states

of Victoria, New South Wales, Western Australia and Tasmania (Wood *et al.* 2001). Queensland, despite highly favourable growing conditions and an abundance of suitable land, has relatively few small-scale foresters. The bulk (95%) of the plantation estate is owned by either industrial forestry companies or State Forest Services. However, excluded from these farm forestry plantation figures are a further 104,000 ha that has been established on farms under joint venture or cost and equity-sharing arrangements (Wood *et al.* 2001). A further 189,000 ha has also been established on farms under leasing arrangements whereby the landholder receives a regular payment for the use of the land and the grower (usually a forestry company) has sole primary production and access rights to the trees. It is likely that most of these arrangements involve native hardwoods on short rotations for pulpwood.

Herbohn and Harrison (2004) have suggested that there are two forms of farm forestry developing within Australia. The first is the growing of short-rotation eucalypt hardwoods such as Blue Gum (*Eucalyptus globulus*) for pulp, which mirrors recent trends in industrial private forestry. The largest areas of planting are in those States where these species are grown in industrial estates, namely Victoria, Tasmania and Western Australia. The second distinct type of small-scale forestry involves the growing of softwoods and more recently native hardwoods – mostly eucalypts but also some rainforest and acacia species, often in mixed-species configurations, for sawlogs and veneer logs. This type of small-scale forestry dominates in NSW and is developing in Queensland.

Herbohn and Harrison (2004) noted that pulpwood-based farm forestry is expanding rapidly in Australia, while hardwood sawlog-based farm forestry is struggling to develop. The recent expansion of small-scale short-rotation eucalypt pulpwood plantations on private land has occurred in parallel with rapid industrial-scale plantation expansion (Herbohn and Harrison 2004), and it is possible that this form of farm forestry is consistent with existing structures of economic organisation applicable to industrial forestry. It could also be that the traditional economic organisation structures are not appropriate for hardwood sawlog farm forestry and that this is one of the reasons why this sector has struggled to develop.

This paper outlines two traditional hierarchical models of economic organisation as they apply to the Australian industrial forestry sector, followed by an assessment of their applicability to the two farm forestry sectors identified by Herbohn and Harrison (2004). This is followed by an overview of strategic alliances based on the network view of the firm. A strategic alliance model for small-scale plantation forestry ventures is then developed as an appropriate alternative to traditional methods. The potential implications of the model for investment in small-scale forestry are then discussed along with the implications for venture creation and capital raising, with particular reference to north Queensland.

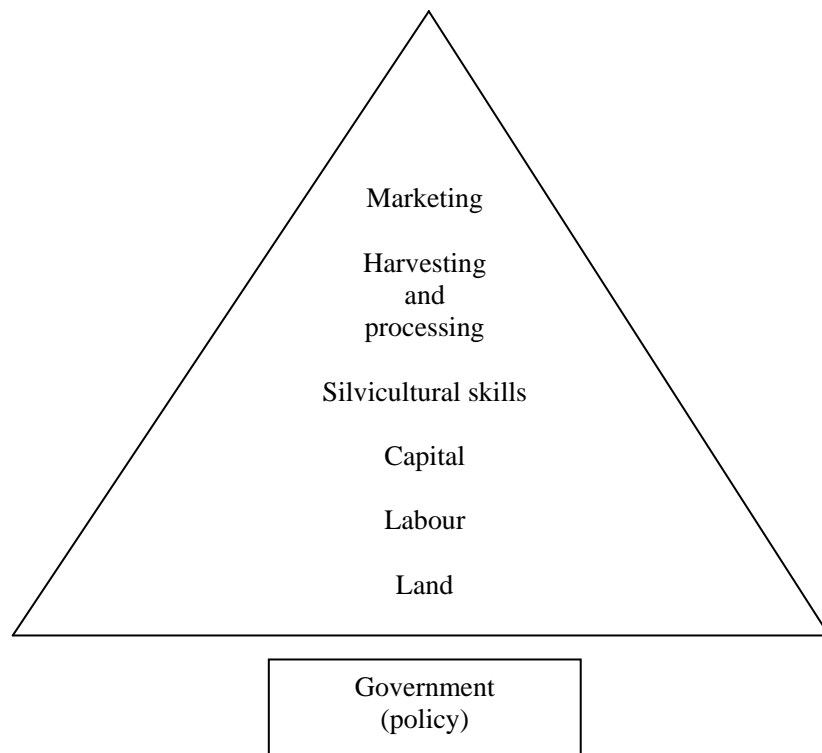
## TRADITIONAL FORESTRY ORGANISATION IN AUSTRALIA

Broadly speaking, successful forestry ventures require land, labour, management skills and finance. Management skills may be broken down further into silvicultural skills, harvesting and processing skills, and marketing skills. Collectively, these can be thought of as factors of production. Government policy and provision of infrastructure effectively makes a seventh factor. The past dominance of State forest

services (SFSs), and more recently large corporations, in forestry production systems in Australia has resulted in methods of economic organisation that suit these entities. Typically, hierarchical and joint venture models have been adopted.

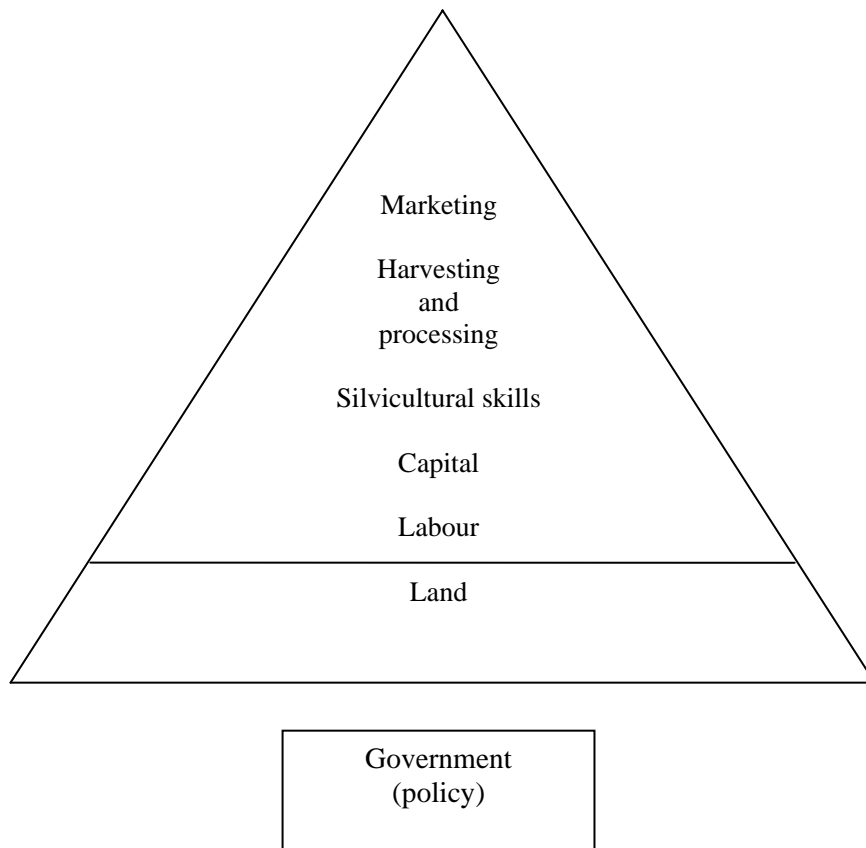
Hierarchical organisation exists where all factors of production are owned within the enterprise. A command-and-control management structure is used for all communication and management. A simple example is an enterprise that has activities across the total value chain where the corporate mission is to produce sawn timber as a final good. This enterprise owns or leases the land for the plantation and owns all the factors of production used over the value chain.

A typical vertically integrated forest enterprise is depicted in Figure 1. In this example, all seven factors are present with the enterprise possessing all but one of the seven production factors (i.e. government policy) and being able to organise the production process throughout the rotation. The enterprise determines the scale of operation, species planted, silviculture regime and timing of harvest, in accordance with its corporate mission and objective function. Usually the objective function of a firm is assumed to be profit maximisation (although it can be argued that many firms are actually satisficers), with competitive firms choosing the production function which maximises their profit.



**Figure 1.** Hierarchical model of a forestry enterprise

A joint venture model typically involves two partners pooling resources to create the venture. Figure 2 illustrates a simple two-partner private sector joint venture model as a derivation of the hierarchical model of Figure 1. This typically represents the situation where a large company wishes to gain access to additional land on which to establish plantations in order to expand their log resource. In this example, one partner (a landholder) provides one factor of production (i.e. land), and the other partner (the company) provides all other factors of production. Variations on this model exist, for instance with one partner (e.g. a farmer) providing both land and some or all of the required labour. Alternatively, it could represent a joint venture between the private sector (e.g. a landholder) and the public sector (e.g. a state forest service). The inputs are provided by the partners based on a contract agreement, with the equity share of each typically ranging between 20% and 80%, depending on relative input contributions.



**Figure 2.** Joint venture model (as partners)

The models depicted in Figures 1 and 2 are typical models of forest plantation enterprises that have been used in Australia by government and the private sector. The hierarchical model (Figure 1) allows transaction costs to be minimised (managed within the firm), and appropriate scale to be achieved. The JV model<sup>1</sup> (Figure 2) can be regarded as an extension of the hierarchical model where a forest manager, SFS or corporation wishes to gain access to additional land. As highlighted previously, most forestry in Australia can be classified as large-scale and both models are suited to this type of forestry.

### Small-scale Forestry Development in North Queensland

There is a long tradition of forestry in north Queensland (e.g. see Lamb *et al.* 2001), with the timber industry previously being based on logging of rainforests. This industry largely ceased with the World Heritage Listing of the Wet Tropics in 1998. There have been a many efforts to develop farm forestry in north Queensland. Most recently, these efforts have been associated with developing an industry based on plantations of high-value native rainforest cabinet timbers and eucalypt hardwoods. Sawn timber production utilising these native species involves very-long-run considerations with a rotation length in excess of 30 years (Harrison *et al.* 1999, Herbohn *et al.* 1999). A number of studies (Kent and Tanzer 1983, Keenan *et al.* 1998, Killin 2003) have identified large amounts of land, for which forestry would be the most suitable land use. Despite the abundance of land, and two recent public sector sponsored planting schemes, the industry has yet to develop. In a survey of landholders in three north Queensland shires, Herbohn *et al.* (in process) identified a number of impediments to farm forestry (as listed in Table 1), the most important being mistrust of the government. Many of the impediments in Table 1 are associated with factors of production or government policy as per Figures 1 and 2.

**Table 1.** Key impediments to small-scale forestry in north Queensland

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Mistrust of government especially after World Heritage listing
Long wait for returns
Fear that regulations may be introduced that prevent future harvest
Finance required, lack of capital
Do not want to remove land from existing profitable use
Low profitability
Flexibility for future land use reduced
Labour required for planting and maintenance
Uncertainty about future timber prices
Lack of information about likely financial returns
Low prices being received for timber currently being harvested

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Source: Herbohn *et al.* (in process).

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<sup>1</sup> Other forms of JVs are possible, such as between a landholder (producer) and a miller or marketer. However, these are rare in the Australian context.

### **The Need for a New Model for the Organisation of Small-scale Forestry in North Queensland**

The hierarchal model (Figure 1) is not well suited to the small-scale forestry sector. Small-scale producers by their very nature do not have the resources needed for this form of organisation. They can however sometimes piggyback on (and complement) existing industrial plantings and infrastructure established using this organisational model. This is case for the farm forestry pulp-wood sector identified by Herbohn and Harrison (2004), where the lack of individual resources of landholders growing eucalypts for pulpwood is mitigated by utilising the existing infrastructure created by forestry companies and investment promoters within a region. There is little, if any, existing farm forestry based on pulpwood production where complementarities with industrial plantings are not available. In the case of north Queensland, there is no existing industrial pulpwood estate, and high land prices relative to many other regions in Australia mean that such a sector is unlikely to develop.

There are a number of alternative joint venture arrangements (Figure 2) between landholders and either SFSs or large companies. Typically, Australian joint ventures fall into one of two categories, a joint venture between a large forestry company and landholders to grow Blue Gum for pulpwood or a joint venture between a SFS and a landholder to grow eucalypts or pine for sawlog production. Transaction costs can be high, especially where there is an arrangement for a landholder to increase their equity thorough inputs of labour and other services, resulting in the need for interaction in the form of provision of technical advice and subsequent monitoring. In general, joint ventures appear to be an appropriate model where the landholder contributes a relatively large amount of land, usually in excess of 10 ha and often a much greater area. In Queensland, the Plantation Joint Venture Scheme (PJVS) has been operating in south east Queensland since 1996 and was expanded to north Queensland in 1997. This scheme supports forestry ventures between the state forest service (DPI-Forestry) and landholders, with equity in the final harvest being calculated based on the inputs of both partners.

In the Queensland Wet Tropics, surveys of landowners indicate joint ventures are not popular with landowners (Harrison *et al.* 1999, Herbohn *et al.* in process). Evidence of a low uptake by landowners in the PJVS compared to other regions in Australia also offers support for this view. The PJVS offered in north Queensland suffered from early curtailment after attracting only 16 joint venture partners and establishing just 160 ha of plantations over the three years 1997 to 1999 (Killin 2002). In part, this low uptake may have been due to an alternative program operating simultaneously, which offered landholders generous support in terms of heavily subsidised planting assistance, no surrender of equity and a wider selection of species. Recently DPI-Forestry has wound back the PJVS in south-east Queensland, in preference to leasing of land from landholders with no equity sharing and little consultation with landholders over the management of the plantations. This change has apparently been the result of prohibitive transaction costs associated with dealing with a large number of landholders with relatively small land parcels.

In summary, the traditional forms of economic organisation of industrial forestry do not appear to be well suited to small-scale forestry. The hierarchal model appears to be only applicable where the farm forestry sector can take advantage of existing industrial forestry. In the case of landholders in north Queensland, the predominance of impediments linked to the factors of production and government policy suggests

that the traditional hierarchical model is not appropriate. The joint venture model has been applied successfully in some cases, but its wider applicability is limited by not being consistent with the requirements of many landholders in some areas, and through high transaction costs, especially when small areas are planted on farms. This appears to be the case in north Queensland where there was a low uptake of the PJVS.

An alternative model is needed which is more attractive to landholders and which allows them to take an active role in plantation management and draw in the required factors of production. A critical factor is capital to finance the establishment of plantations. Unless alternative methods of organisation are made available, and more landowners encouraged to grow trees and provided access to capital, then Australia could very well fall short of the 2020 vision. While short-rotation Blue Gum (predominantly for pulpwood) is being planted in large quantities, no substantial areas of long-rotation rainforest cabinet timbers are being planted. The remaining sections of this paper explore the potential for an alternative model to be developed based on strategic alliances.

## OVERVIEW OF COLLABORATION AND STRATEGIC ALLIANCES

Strategic alliances and collaborative forms of business organisation provide an alternative to the traditional structures discussed above. These exist to some extent in other industries in Australia, but have not been used to any extent in forestry.

### Strategic Alliances and Networks Defined

A *strategic alliance* is defined broadly as a collaborative form of economic organisation where numerous discrete agents contribute resources based on their endowments and where dynamic interaction occurs between agents (Gerlach 1992). The customary application of strategic alliances in Western society has been in the manufacturing and technology sectors, but strategic alliances may arise throughout an economy wherever limited resource endowment constrains new investments and agents desire to maintain their independence. Once agents form an alliance with partners, whilst they retain their independence in other aspects of their activities, they become interdependent with their partners with respect to the domain of the alliance.

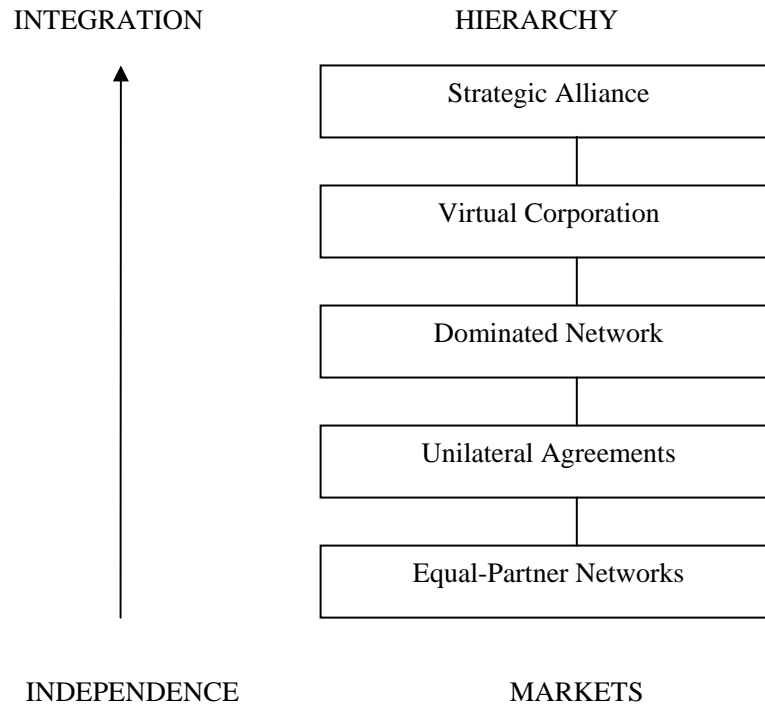
It is appropriate to draw a distinction between *business networks* and strategic alliances. Networks are informal arrangements of a non-binding nature often established for general business purposes. A network view of the firm has been postulated by Kaneko and Imai (1987). Strategic alliances on the other hand are formal arrangements often with contractual obligations and established for specific business purposes. Strategic alliances are network arrangements but not all networks are strategic alliances. The network view being advanced in this paper is one based on open and explicit multi-faceted inter-organisational relationships, rather than the traditional view of a network simply being a mode of economic organisation somewhere between markets and hierarchies. With numerous discrete agents contributing to a long-run production function based on their endowments or expertise, an enduring strategic alliance of partners prepared for the very long run may be required.

Networks of businesses are common in Australia. BIE (1995, p. xvii) described business linkages or networks as: 'special relationships between at least two firms that are beyond normal market transactions and have some permanence'. A survey conducted by the BIE (1995) of 1500 Australian firms engaged predominantly in manufacturing, food processing and scientific and medical equipment production revealed that one-third of the respondents were involved in core cooperation or networks while two-thirds had core and marginal involvement. The major benefits identified by respondents include increased profits and sales (40%), better market knowledge (37%), gaining new customers and suppliers (30%) and as a means of product development (30%). The reasons for network failures or network avoidance included that firms did not want to forfeit any control (44%), their trust was betrayed or not gained (44%), they incurred or perceived high costs (31%) and their personality was not compatible with partners (22%). Hine and Howard (1998) found greater acceptance of business networks in regional and rural Australia, the main concerns being over different issues to those raised in the BIE (1995) study of predominately capital city based enterprises. These studies thus suggest that networks are likely to be well supported in the development of a rural industry such as forestry.

#### **Levels of Integration Evident in Organisational Structures**

From an organisational efficiency perspective, it can be argued that the dominant organisations (i.e. publicly listed companies and SFSs) in the forest industries use either a market solution or a hierarchal solution to reduce transaction costs, depending on the size or focus of the enterprise. For instance, some companies prefer market solutions, e.g. a large multinational may prefer the hierarchical model because of the benefits of having close control over all elements of the value chain. In contrast, smaller firms may opt for a market solution because they do not have the financial or human resources required to achieve vertical integration of activities. An enterprise may choose to confine activities to their particular market segment while others may prefer integration. Firms or economic agents collaborate for numerous reasons including reduction of transaction costs, to gain market access and for enterprise diversification. While the view of networks as being positioned between the dichotomous poles of markets and hierarchies is overly simple, the dichotomy is useful in understanding the concept of integration. Child and Faulkner (1998) posited various integration levels of collaboration (Figure 3), where markets represent independence or lack of integration, while the hierarchy represents greater integration.





**Figure 3.** Levels of integration  
Source: Child and Faulkner (1998).

In Figure 3, strategic alliances are depicted as possessing a level of integration approaching that of the hierarchy. According to Imai and Itami (1984), the organisational forms of markets and hierarchies can coexist within a collaborative arrangement in a concept referred to as ‘interpenetration’, where an organisational structure possesses market-like and hierarchy-like properties. An example of ‘interpenetrated’ collaboration would be where a hierarchical public-sector enterprise forms a strategic alliance with two stock-exchange listed companies for the purpose of creating a new product. Each partner would still use their respective method of organisation over their domain but the strategic alliance in total would exhibit the dual properties. The focus would be upon the relative transaction costs of markets and hierarchies rather than fixed or common costs.

Within an alliance, over time a blurring of the distinction between the members of the alliance often occurs such that increasingly fluid and fuzzy boundaries arise (Kaneko and Imai 1987). Networks are attractive to agents because they allow organisations to maintain their independence and be involved in productive activities while potentially minimising transaction costs (Child and Faulkner 1998). Transaction costs incurred when developing networks could be thought of as either *ex ante* or *ex post* where according to Ring (1999) the former are costs incurred by agents searching for an exchange partner and the latter are the costs of negotiating in the present for performance in the future. Ring (1999) makes the point that the

transaction cost outcome for the networked firm is ambiguous – higher or lower but non-trivial transaction costs may occur, depending on the dynamics and nature of the network. The magnitude of transaction costs is thus an important consideration for any alliance. If the transaction costs are higher than the benefits (particularly financial) to be had by co-operating then there is no point co-operating. Notably, it is rarely possible to quantify benefits with any certainty at the time transaction costs are incurred. Thus, the attractiveness of an alliance generally depends on *perceived* benefits, and the long-term nature of forestry investments makes these benefits highly uncertain.

### **The Importance of Governance Issues within Networks**

At all stages of a strategic alliance, corporate governance is likely to be a key issue, particularly with respect to trust and commitment. Child and Faulkner (1998) outlined the concepts of an ideal relationship, evolving over three distinct phases of an alliance lifecycle. In the formation stage, partners evaluate each other and determined how much they can trust other partners. In the implementation stage a deeper mutual understanding develops between the partners, while in the maturing or evolving stage a distinct bonding between partners becomes evident. Dealing with the three potential sources of network uncertainty – namely resource, process and commitment uncertainty – requires a balance of formal contracts and informal arrangements (Sharma 1998). An over-reliance upon formal contracts tends to induce an element of rigidity that runs counter to the spirit of the alliance, and arrangements that are more informal promote a desire for the partners to resolve conflicts rather than exit the alliance (Sharma 1998).

When participating in alliances, firms are often concerned with protecting their core competencies in the event of venture failure. Milgate (2000) described the process as Black Box Protection (BBP), drawing the analogy with black box flight recorders in aircraft. The form of BBP selected depends on the type of venture and specific needs of the partners, but should focus on the dynamic nature of the alliance without limiting the activities of the alliance or eroding trust (Milgate 2000).

In a critique of the Business Network Program funded by the Australian government, Fulop (2000) found a need within networks to address key governance issues. An excessive reliance on legal structure was found to be generally inferior to less formal arrangements because of a perception of ‘spiraling distrust’. Network agreements were generally found to encompass such conditions and activities as decision making, supervision, management systems, exit conditions, information sharing and the circumstances of major expenditure. The survey findings reinforce the belief in Western culture of ‘trust’ as the key to strategic alliances rather than the relational access and integration of successful Japanese networks and strategic alliances. Highlighting integration as a key, Fulop (2000, p. 90) observed that ‘the willingness to share confidential information or commercially sensitive information was related to the level of integration occurring in the network’. This implies that the more successful networks are more highly integrated and there is a greater willingness to share information between the venture partners. One problem however in applying these observations about integration is that ‘integration’ is difficult to define, and often all that can be said is that it has happened.

## **SMALL-SCALE FORESTRY STRATEGIC ALLIANCE MODELS**

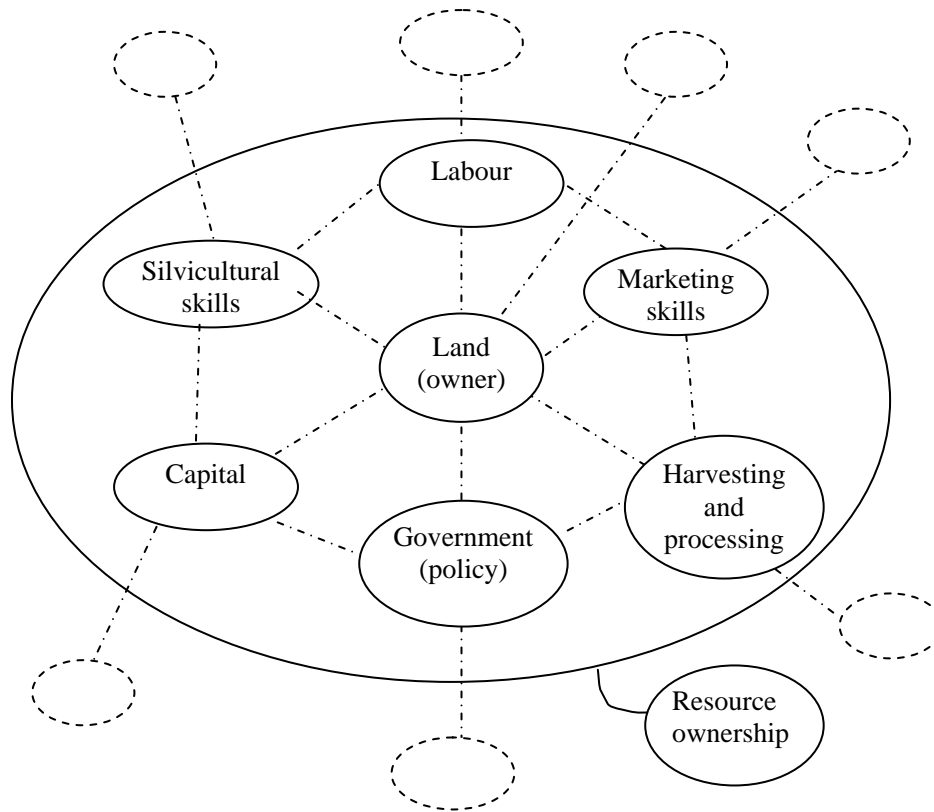
Is it feasible to design a strategic alliance model specifically for small-scale plantation forestry ventures? Such a model would need to take account of aspects of vertical and horizontal alliances and the economic benefits of integration, as well as the large number of producers who may share in an alliance. There will also be a difference in the model appropriate for a developing industry as opposed to a mature industry. In a developing industry, the focus is on establishing a resource through expanding the area of plantations within a region. The key issue in this case is how to fund the expansion of the plantation estate. In a mature industry, the focus is on maximising the value to the plantation owner and other participants in the value chain. In both cases however, numerous partners or participants will be involved in forming the strategic alliance.

### **Accommodating Numerous Partners**

In situations where resource endowments and production factors are widely dispersed between agents, a collaborative approach or strategic alliance offers an appropriate method of economic organisation. At the outset it is acknowledged that attention is required to minimising transaction costs, building trust, promoting sound corporate governance and ensuring continuing information exchange between partners. These activities are key drivers of successful alliances and they just don't happen because partners want them to. There are alliance building strategies available that are focused specifically on each of these elements, embedding them in the value chain and monitoring their performance. In the absence of purposeful action to ensure these outcomes, successful alliances usually fail to eventuate. Without more appropriate methods, adopting a strategic alliance model approach for small-scale plantation forestry ventures may be the difference between establishing a forestry venture or not. Where landowners want to retain their property on at least some of their land, but also participate in a forestry venture, the model offers an alternative to the traditional models. Third party capital providers interested in investing in forestry, but who have limited knowledge of forestry, could potentially be accommodated. Agents within a region who hold other factors of production can be included in an alliance. Adopting a stakeholder-inclusive approach as embedded in the model allows for appropriate regional involvement in plantation forestry, deemed highly desirable by Race (1999), but which is not generally afforded by hierarchical or joint venture models.

### **A Strategic Alliance Model for a Mature Forest Industry**

For illustration purposes, Figure 4 represents a highly stylised strategic alliance model for a small-scale plantation forestry venture. This model has multi-nodal features which incorporate vertical and horizontal alliances as outlined by Kaneko and Imai (1987) and Gerlach (1992). Each component or stylised factor of production is treated as a node, which is consistent with the network and strategic alliance literature.



**Figure 4.** Strategic alliance view of small-scale forestry ventures

*Vertical alliance aspects of the postulated model*

The core *vertical alliance* involves the seven potential primary factors of production necessary for a successful forestry venture. These are represented by the solid oval shapes. The 'landowner' contributes the land for the plantation, on a lease, annuity or profit-share basis. 'Capital' represents the venture capital provided by one or more investors. 'Silvicultural skills' represents the skills and technology in selecting and growing the trees. 'Harvesting and processing skills' refers to expertise in the harvesting of the timber and downstream milling into sawlogs, veneer or other intermediate goods. 'Marketing skills' refers to the facilitation of sale of the final goods from the venture. 'Government' refers to government at all levels through the provision of policy for resource security, regional infrastructure and other public considerations that may affect the venture. Each partner may contribute more than one production factor. For example, a partner may contribute silvicultural and marketing expertise. The core alliance is vertical because each partner is distinct from the others (i.e. they play a different role in the supply chain) by virtue of the services they provide, therefore representing economies of scope or link alliances as envisaged by Child and Faulkner (1998). The concept of each creating sufficient value to 'earn' their place in the chain (alliance) is the key to chain membership, and a precursor to relationship building.

*Horizontal alliance aspects of the postulated model*

The strategic alliance model also incorporates horizontal alliances – represented by the dotted oval shapes in Figure 4 – because each partner may participate in a network with other like partners in their field, thereby achieving economies of size or scale alliances as envisaged by Child and Faulkner (1998). While the model is depicted for a single landowner, it is essential that horizontal alliances of landowners occur within a district to achieve sufficient resource size and continuity of supply to sustain a viable regional industry.

In the hierarchical and joint venture models, one party controls the entire timber resource and this resource is sufficient to supply the post-harvest elements of the system. This ensures that the organisation has control over the timing and volume of timber harvested. Such concentration of control does not necessarily exist in the strategic alliance model outlined here, contracts being an optional component of the strategic alliance between partners (Gebrekidan and Awuah 2002).

In the strategic alliance model, the resource is owned or controlled by numerous landholders with plantations which are small relative to industrial estates involved with the traditional models. Typically, the flow of timber from any one landholder is small in volume and produced at irregular intervals. It is unlikely that a processor would like to deal directly with individual landholders because of the high transaction costs. Further, lack of continuity of contact would make it difficult to develop ‘trust’ within the arrangements. Therefore, mechanisms are necessary to aggregate supply and reduce transaction costs. The landowner horizontal alliance may be in the form of a grower cooperative or similar arrangement. An alternative arrangement could involve alliances between individual landholders, consultants and log buyers. These consultants and log buyers may provide other technical services such as silviculture advice, thus further developing the relationship and acting as intermediaries between landholders and mills. In this case, the strategic alliance is between the log buyer and the mill, with the log buyers having a network of landholders upon which they can draw<sup>2</sup>. Such arrangements appear to operate in New Zealand, through strategic alliances between log buyers and local mills with the log buyers drawing supplies from their networks with landholders.

Alliances in forest industries already exist in Australia. The Boral and CSR sawmilling joint venture at Oberon in NSW is a prime example of horizontal integration (Anon 2000). The Boral and CSR joint venture is based on these competing firms using an existing infrastructure more widely, hence the alliance is horizontal. Cox and Quayle (2001) found evidence of small-scale foresters forming alliances with industrial forestry entities to gain economies of scale and access to export markets. According to Grandori (2001), decentralised methods of interaction and exchange between the partners are required to maximise the efficiency of a network.

**Benefits of Strategic Alliances for Small-scale Forestry**

For the purposes of small-scale plantation forestry ventures, a strategic alliance model as proposed in Figure 4 appears to provide a viable form of economic organisation which has imbedded in it the value of integration for multiple venture

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<sup>2</sup> See Gebrekidan and Awuah 2002 for a discussion of the importance of networks in strategic alliances.

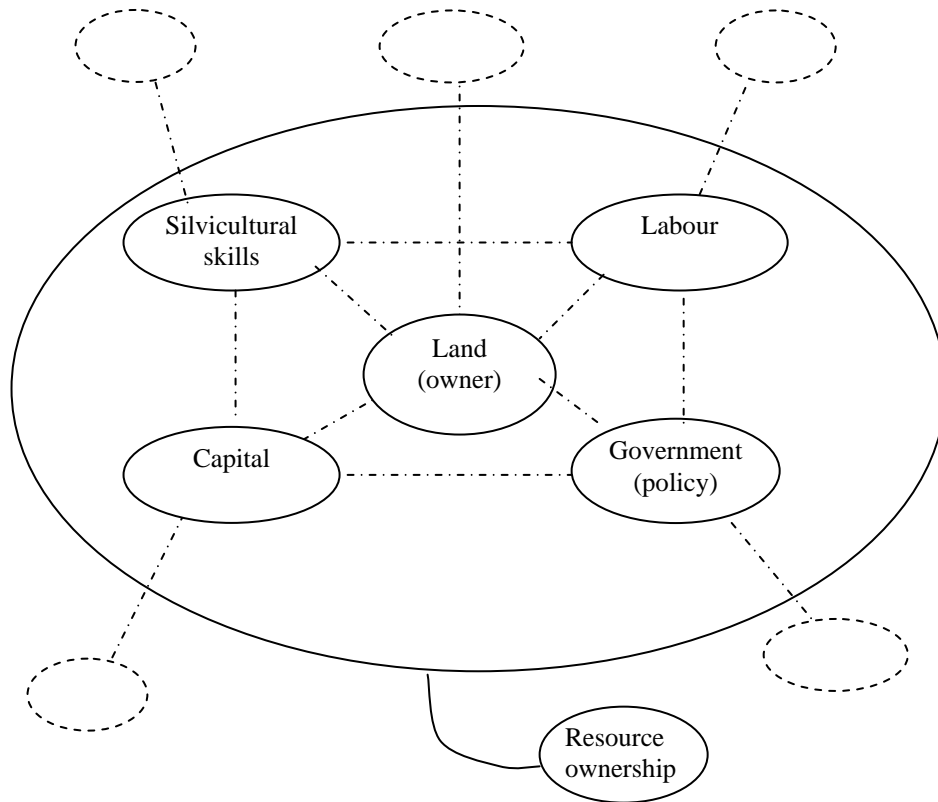
partners. From an economic perspective, the value of integration is derived from the potential reduction in transaction costs available in the network (Child and Faulkner 1998). It can also be argued that a further value (and arguably the real value) of integration in a closely-coupled alliance lies in the greatly enhanced potential for innovation that creates more value that can be shared, and that improves the competitiveness of the whole alliance.

In this paper, it is argued that a strategic alliance model for small-scale plantation forestry ventures will result in a non-trivial negative or positive value of integration. This proposition requires validation through research. However, another means of evaluating the benefits of an alliance is to consider a zero sum game as proposed by Grandori (2001). Under such conditions there is no incentive to cooperate unless the presence of synergies changes the payoff of the game such that the effort exhibited by one or more partners results in an increased sum consistent with the level of effort applied. In a comment about joint ventures, which could also apply to strategic alliances, Tisdell (1989, p. 2) stated 'All must gain more by cooperation than by going it alone and each should not get less from the joint venture than could be obtained from the next best alternative institutional arrangement or investment'. This is where a focus on learning and innovation between alliance partners can pay off significantly.

It could be argued that the strategic alliance model is simply a joint venture with many partners. However, joint venture arrangements are typically formed and determined exclusively by static contractual arrangements, which in the case of plantation forestry are enforced for a long period. In alliances, while formal contracts exist over core issues there is a focus upon more informal measures to resolve conflict and deal with network uncertainty (Sharma 1998). Alliances that are more dynamic and integrated than a joint venture (where a dominant partner could make unilateral decisions which are binding on both partners, for instance the decision about when to harvest) are outlined in Figure 3.

### **A Modified Strategic Alliance Model for Financing a Developing Forestry Industry**

In a developing forestry industry, the focus is often on expanding the plantation resource. The question of how this plantation establishment is to be financed is of critical importance, because often landholders are unable to do this alone. At the industry development stage, strategic alliances for harvesting, processing and marketing are of little importance. The Strategic Alliance model (Figure 4) can be modified to exclude these relationships (Figure 5).



**Figure 5.** Strategic alliance view of early developmental stage in small-scale forestry ventures

In recognition of the problem of financing the establishment of plantations, Plantations Australia (2002) has suggested a possible trust structure (Figure 6). In many ways, this structure is consistent with the modified strategic alliance model in Figure 5. In the strategic alliance model, resource ownership was considered as a separate element of the alliance. The structure proposed by Plantations Australia recognises this, and a number of ownership and remuneration choices can be explored depending on the preferences and needs of the partners. With the availability of *profit à prendre* deeds in Queensland (Underhill 2000), the timber resource could be owned separately from the land.

In this model, a central 'Forest Fund' attracts funds from investors and is used to invest in a range of forest assets, managed by several 'Forest Management Organisations'. There are a number of benefits of this model. It promotes diversification of several types, including a diversification of investment risk for investors by having a spread of forest assets; diversification of investment return for investors particularly if the return on the forest assets is uncorrelated with other assets the investor might hold; and diversification (spread of risk) for the forest fund because it is not dependant on any one forest asset. The model may also provide liquidity for investors, who may be able to sell their investment more easily, and

more regular cashflow for landowners, depending on the type of structure chosen (e.g. annuity payments). Whether this model is suitable for a series of long-rotation small-scale forestry investments is yet to be determined. Considerable benefits may arise for members participating in an alliance established for a small-scale plantation forestry venture. Benefits from alliance participation also arise for venture capital providers. More research is required regarding the issues of resource ownership and remuneration.



**Figure 6.** Hypothetical forest property trust structure  
Source: Plantations Australia (2002).

#### Attractiveness of Alliances for Small-scale Forestry Participants

Evidence by Sharma (1998) suggests the engagement and inclusion of a third-party venture capital provider helps minimise conflict and improves the governance of the strategic alliance. This implies that venture capital provided by third parties is more desirable than capital provided by one of the other alliance partners. For the alliance partners, the creation of the alliance potentially increases the opportunity for attracting capital by presenting an integrated approach that offers a greater probability of achieving a positive return. For the silviculture manager, harvester, processor and marketer of forest products, the main attraction is that it provides additional business opportunities and access to a timber resource which may not otherwise be created within the region (assuming there is a horizontal alliance of producers). Participation on their part allows them to have input into the venture and provides an information flow to which they may not otherwise be privy. For government, participation allows them to provide input (primarily through forest



policy initiates) and be more aware of the needs of the venture, provide support and maximise the provision of timber resources and social benefits such as job creation in disadvantaged areas.

### **Benefits for Venture Capital Providers from Alliance Participation**

For a venture capital provider, one of the potential attractions of strategic alliances is that they may provide a better-managed business vehicle and greater business competitiveness. In addition, there may be the potential for improved information flows over the duration of their investment, depending on their willingness to participate in network interactions. One major benefit of the network structure for the financier is that information condensed through a network is 'thicker' than through a market but 'freer' than through a hierarchy (Kaneko and Imai 1987). Active participation by the capital provider will also allow them to be aware of the social auditing conditions, necessary for them to 'prove' their good corporate citizenship (Svendsen 1998), particularly when the capital provider receives and values the non-timber benefits produced by the venture. It still remains to be determined whether strategic alliances will appeal to potential venture capital providers as an alternative to small-scale plantation forestry investments.

There is an increasing trend towards socially responsible investments (SRIs), ethical investments (EIs) and private equity investments (PEIs) around the globe. If these segments continue to grow, it is possible fund managers will consider small-scale forestry plantations as a means of portfolio diversification. In a survey of United Kingdom institutional investors, Gullison *et al.* (1997) found institutions were prepared to invest in plantation forestry ventures within the European Union, if the risk-return profile was attractive and capital could be withdrawn easily.

### **CONCLUDING COMMENTS**

Hierarchical and joint venture models traditionally used in forest enterprises are generally unsuitable for small-scale plantation forestry ventures. In north Queensland for example, landowners do not favour joint venture arrangements and seek to play a greater role in plantation enterprises on their properties than generally afforded by the traditional hierarchical and joint ventures models. The collaborative approach embodied in the strategic alliance model is a potential means of drawing together the required factors of production within the region to support forest industry development. The model can accommodate numerous discrete agents who control unique resource endowments required to create a successful plantation forestry venture. Including a third-party venture capital provider is seen as beneficial to increase governance and stability within an alliance. Collaboration potentially offers the opportunity to reduce transaction costs and increase information flows by the process of integration within a strategic alliance. Further research on the drivers and motivation for strategic alliance participation, the position with respect to transaction costs, and strategic alliance governance issues, are required to assess the application of these alliances to small-scale forestry ventures.

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